



# Lecture 3

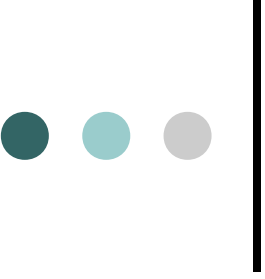
## AAE 374 Fall 2009

- Announcements:
  - PS1 on Web (Due 9/24)
  - Appleyard up
  - Packet should be in
  - Sections this week are key for the PS



# Overview of today's lecture

- Rosenberg Discussion
- Current Trade Picture
- Ricardian (Labor based) Trade model




# Rosenberg's view of globalization and the poor

- In what ways has globalization hurt the poor in developing countries?
  - Slower growth in 'south'?
  - Inequality (no clear relationship revealed between globalization and inequality outcomes. Any ideas why?)
  - Poverty (same story but depends on growth and equity.)
  - Expanding or contracting choice? Chicken cutter versus corn farmers—do we worry about latter? Is choice the right metric?
  - Specific case of Latin America – too much mkt, too little state?
  - Does this add up to a world that will derail globalization?



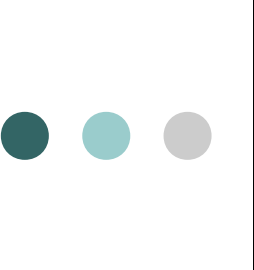
# In What Ways Have Global Politics Hurt the Poor?

- Intellectual Property Rights and Drugs
- Agricultural Subsidies and Protection
- ‘Fin Market interests’ IMF and the masters of the universe
- Develop with minimal state intervention



Can national and international policies help to make globalization work for the poor?

- Technology vs. assembly
- Why did/does Asia grow—state vs. market
- Western experience – what mix of state and market, domestic and international?
- Making globalization livable (Chile)
- Avoid one-size fits all policies for development – look at contrasts in developed and fast-growing developing countries. Fastest growing countries right now (India and China had lots of state involvement).



# *Trade as a sources of growth and convergence*

- Trade understood as a technological option – that is a way of transforming objects/endowments into material standard of living
- What can trade (and later, growth) theory tell us about polarization?

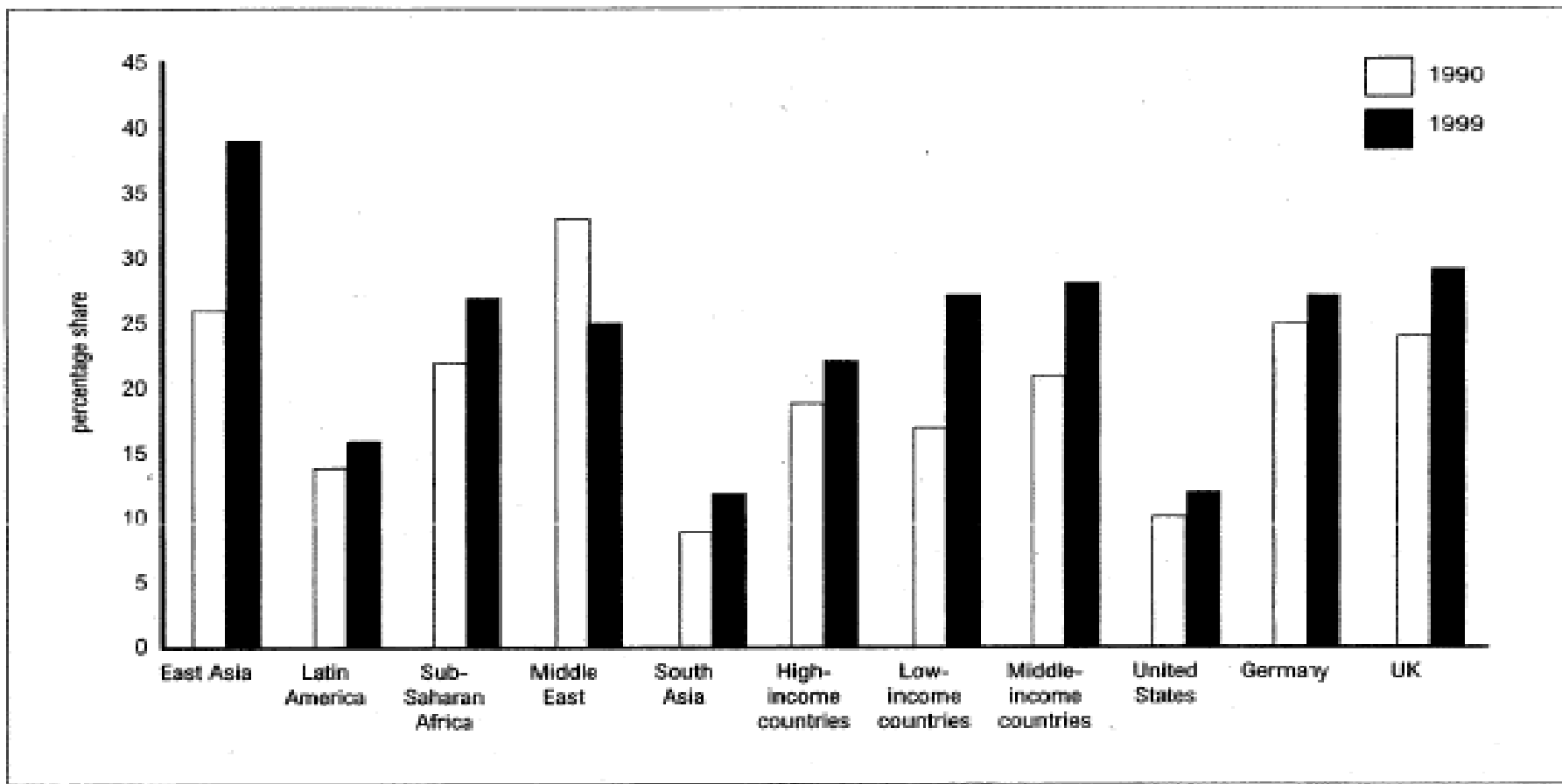
# Globalization & Growth of Trade

**TABLE 12.1** Trends in World Exports, 1970–1997

	1970	1980	1983	1990	1996	1997
<b>World exports</b>						
Nominal value (billions of dollars)	312	2,002	1,814	3,401	5,231	5,394
Real value (billions of 1980 dollars)	590	2,002	1,620	2,076	2,987	2,909
<b>Share of world exports (%)</b>						
Developed countries	71.9	66.3	64.1	74.6	78.5	76.5
Developing countries	17.6	27.9	24.9	17.8	17.3	18.9
Centrally planned economies and their successors	10.5	8.8	11.0	7.5	4.2	4.6

Sources: John Sewell et al., *Growth, Exports, and Jobs in a Changing World Economy: Agenda 1988* (New Brunswick, N.J.: Transaction Books, 1988), tab. A. 1; World Bank, *World Development Report, 1992: Development and the Environment* (New York: Oxford University Press, 1992), tab. 14; International Monetary Fund, *World Economic Outlook, May 1998* (Washington, D.C.: International Monetary Fund, 1998), tabs. A22, A23, A29, and A31.

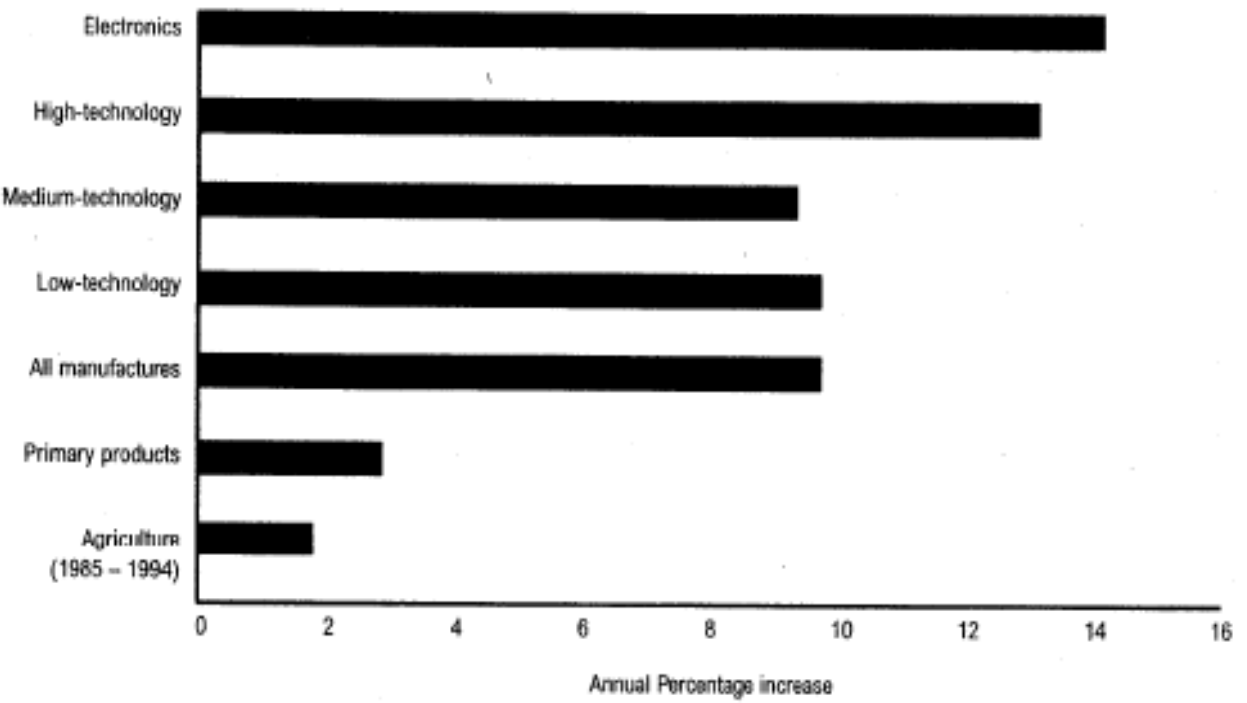
- Growth of trade globally (Todaro 12.1 → ~7% annual growth of trade)



- Growing % of GDP that is traded (Oxfam figure 1.2)
  - Can we explain the exception here?
  - Why is the US % so low?

**Figure 1.3**  
Average annual export growth rates  
by selected product groups:  
1985-98

Sources: UNCTAD 1999 and OECD 2001a



- Evolving composition of trade (Oxfam 1.3 on product group trade growth)

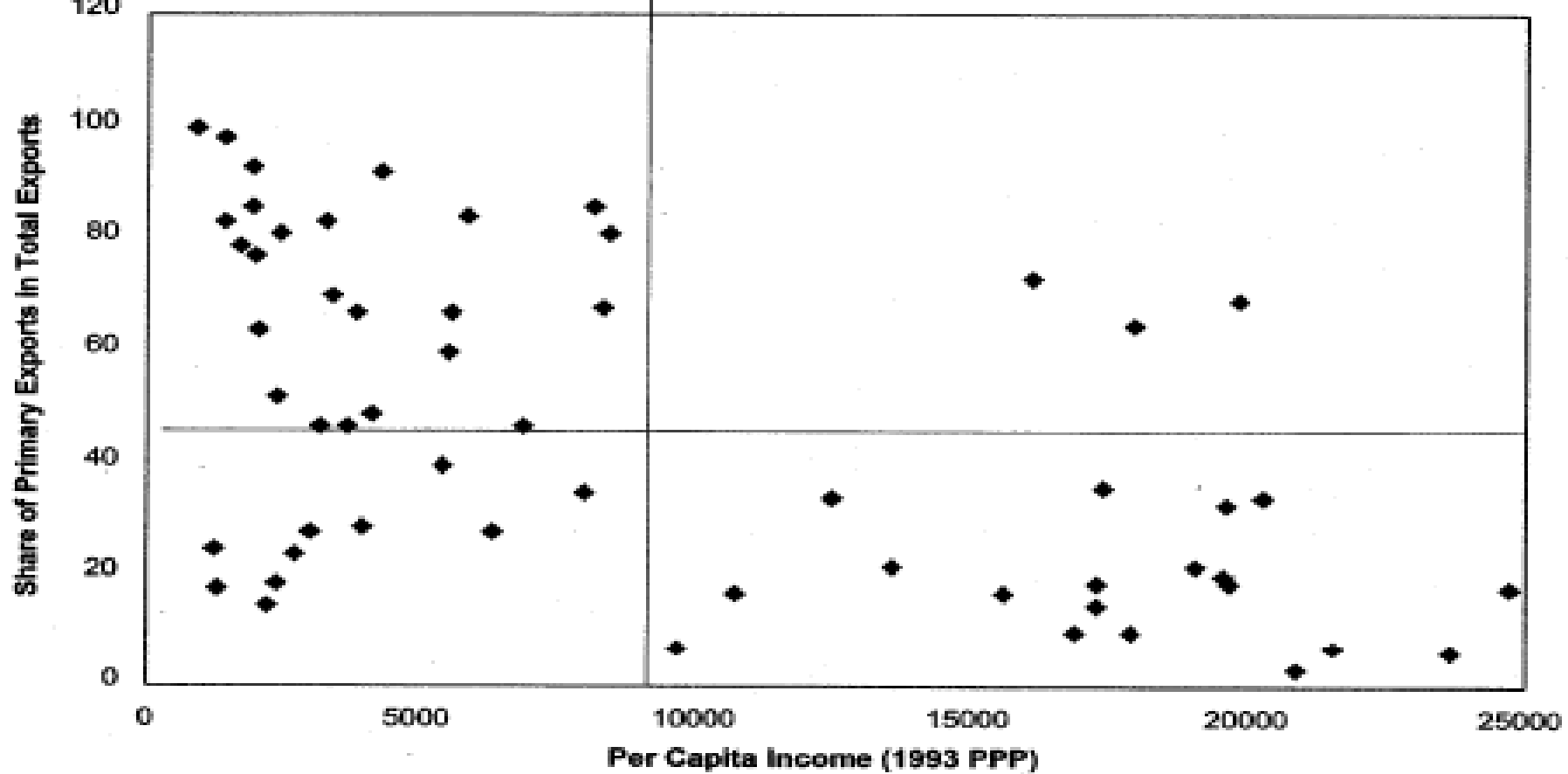
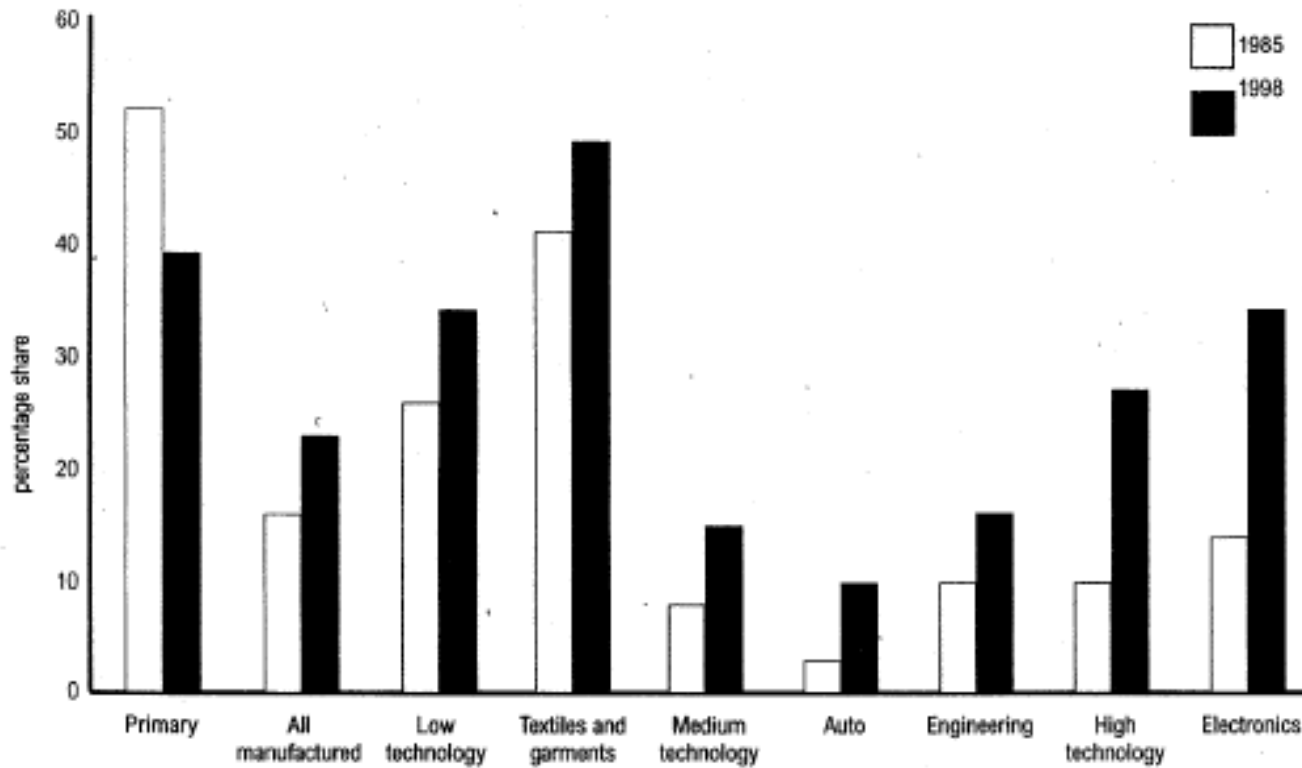


Figure 16.1. Share of primary exports in total exports. Source: World Development Report (World Bank [1995]).

- Trade Patterns (back to Todaro table)
  - North-north (within this intra-industry >25%)
  - North-south

**Figure 1.5**  
Share of developing countries in world exports: selected product groups (1985 and 1998)

Source: Lall 2001a



- Evolving pattern of N-S trade away from primary commodities (Oxfam table 1.5)



## *Explaining N-S Trade*

- *First focus on classic N-S trade idea of comparative advantage & trade as improved technology*
  - Ricardian (2 countries, 2 goods, 1 factor of production, labor) 2x2x1 [Appleyard 27-38]
  - Heckscher-Ohlin (2 countries, 2 goods, 2 factors: labor and capital) 2x2x2 [Appleyard 85-99]



# ***2x2x1 Trade Model***

- Countries: North and South
- Goods (and technologies)
  - Automobiles
    - In North takes 10 units of labor to make 1 auto
    - In South, takes 40 units of labor
  - Cotton
    - In North, takes 15 units of labor
    - In South, takes 20 units



# Production (Autos & Cotton)

Labor Costs	<i>North</i>	<i>South</i>
<i>Autos</i>	10 labor units	40 labor units
<i>Cotton</i>	15 labor units	20 labor units

- What are 'absolute advantages' in production?
- Factor Endowments
  - North has 600 units of labor  $\rightarrow 10a + 15c = 600$
  - South has 600 units of labor  $\rightarrow 40a + 20c = 600$



# Endless Possibilities...

Feasible combinations for North given tech and 600 laborers

<b>Autos</b>	<b>60</b>	<b>30</b>	<b>15</b>	<b>0</b>
<b>Gigasacks of Cotton</b>	<b>0</b>	<b>20</b>	<b>30</b>	<b>40</b>

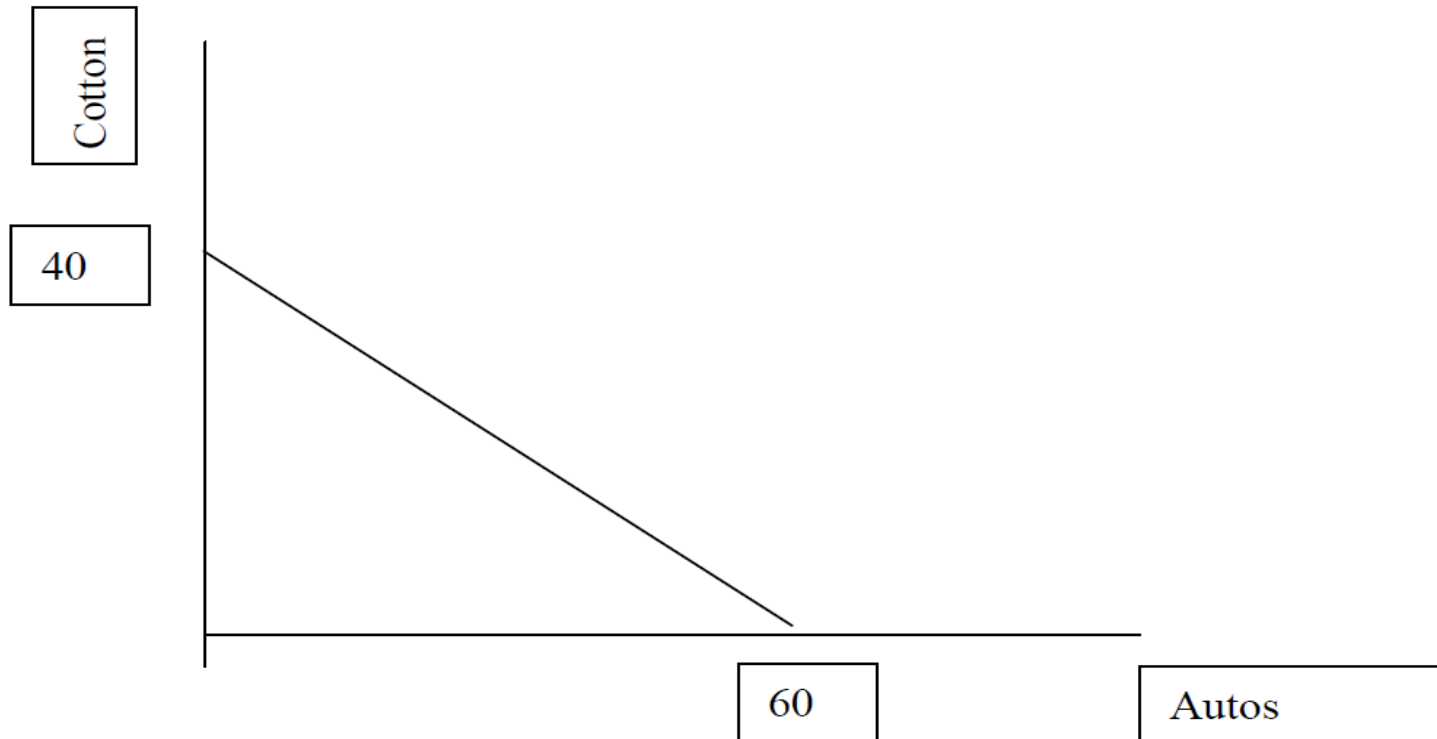
Feasible combinations for South given tech and 600 laborers

<b>Autos</b>	<b>15</b>	<b>10</b>	<b>5</b>	<b>0</b>
<b>Gigasacks of Cotton</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>30</b>

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$$\text{North: } 10a + 15c = 600$$

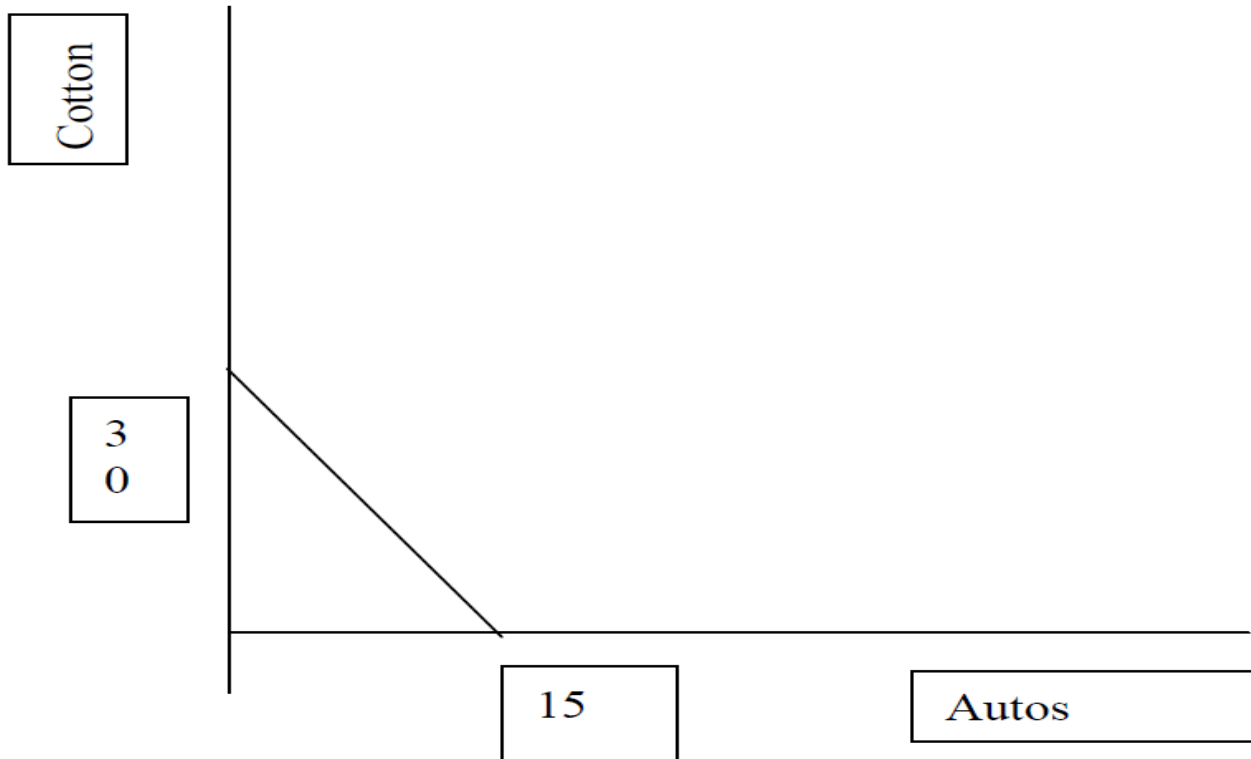
$$\text{South: } 40a + 20c = 600$$



- In north:  $c=40-(2/3)a$ , where  $c$  is the cotton that can be produced when  $a$  autos are produced

● ● ● | North:  $10a + 15c = 600$

South:  $40a + 20c = 600$



○ In the south,  $c = 30 - 2a$



# Real Economic Prices (Measured by Labor)

- How much cotton does one auto cost in North (i.e., how much cotton must they give up to get one more auto)?  $\frac{2}{3}$  gigasack of cotton / auto
- How much cotton does one auto cost in South (i.e., how much cotton must they give up to get one more auto)? 2 gigasacks / auto
- Note that these costs are simply given by slope of production possibilities curve—steeper slope, more cotton given up to get another auto—i.e., more expensive autos are in real terms.
- So where are autos most expensive? (Think opportunity cost).



# Autarchy and Real Prices

- CLAIM: Under autarchy in north, the price of autos relative to the price of a gigasack of cotton has to be in ratio  $10:15=2/3$ , for example \$1000 for an auto and \$1500 for a gigasack of cotton.
- If autos sell at a relative price  $> 2/3$  (say \$5000 per auto and \$1000 per cotton, a relative price of 5) then all northern firms will want to make autos and big profits. Every 15 units of labor employed will yield them revenues of \$7500 ( $=1.5 \text{ autos} * \$5000$ ), while same 15 units of labor allocated to cotton will yield them only \$1000 ( $1 \text{ gigasack} * \$1000$ ).



# Autarchy and Prices Cont'd

- If autos sell at a relative price  $> 2/3$ , no cotton will get produced. Consumers demanding cotton will drive the price of cotton up until we get back to the  $2/3$  relative price ratio.
- Similarly, if autos sell for a relative price  $< 2/3$  (say \$500 for an auto and \$1000 for cotton), only cotton will get produced as profit making producers rush to make profits producing cotton (or avoid big losses making autos).
- **CONCLUSION:** the “real” price of a gigasack of cotton has to be in ratio  $10:15=2/3$



## Autarchy and Prices Cont'd

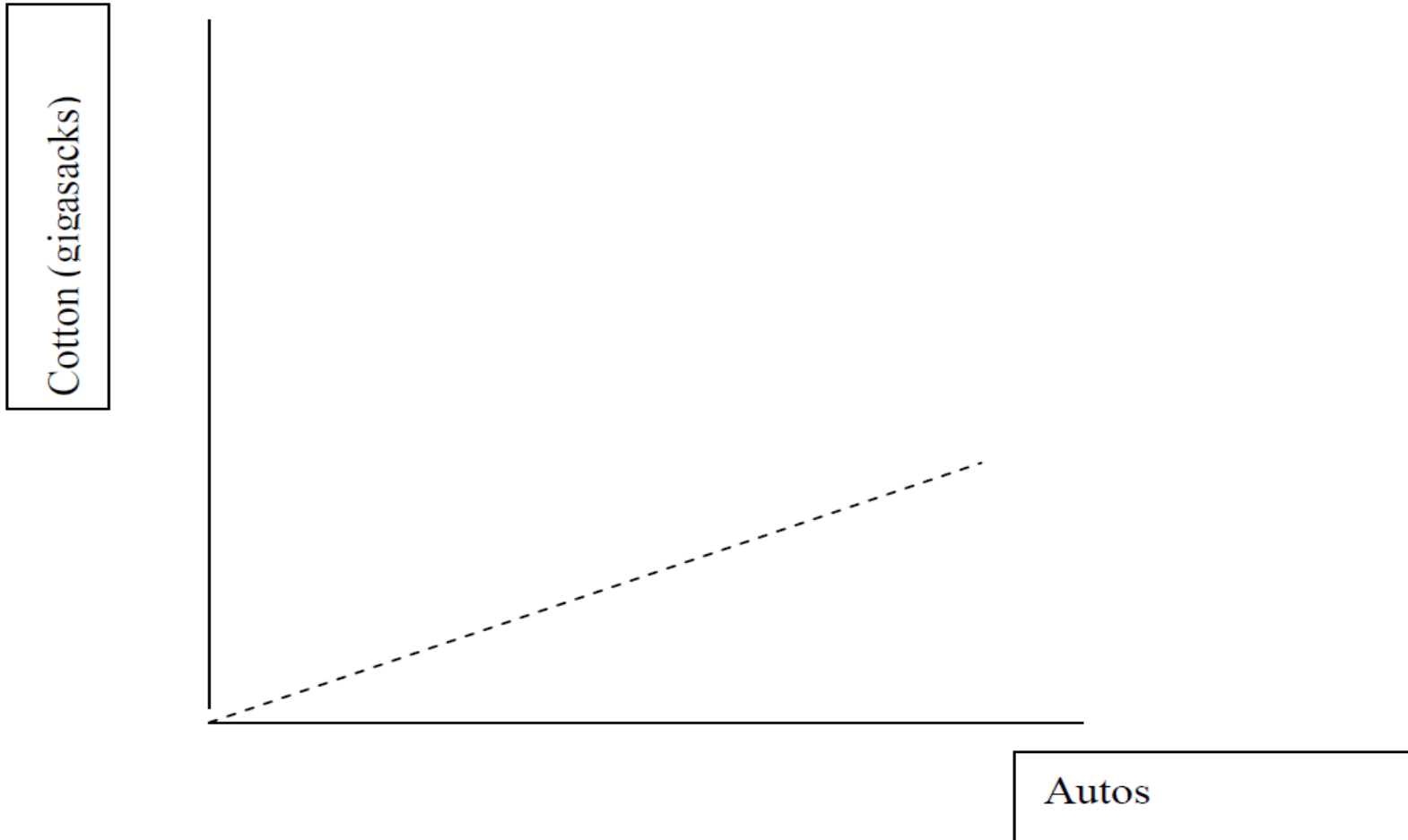
- **By a similar logic, in south, prices have to be in a relative price ratio of 40:20 or 2.**
- **Notice we have only talked about the production side and prices. No prediction as yet about what each country will produce. How to get such a prediction?**



## Next Time

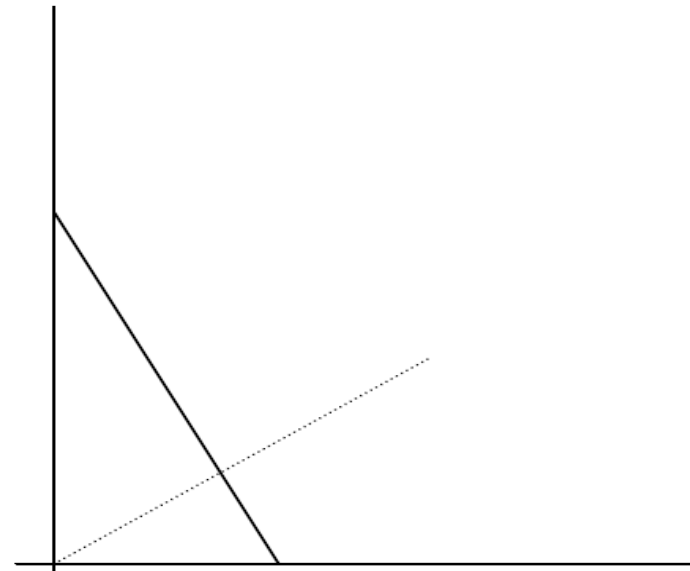
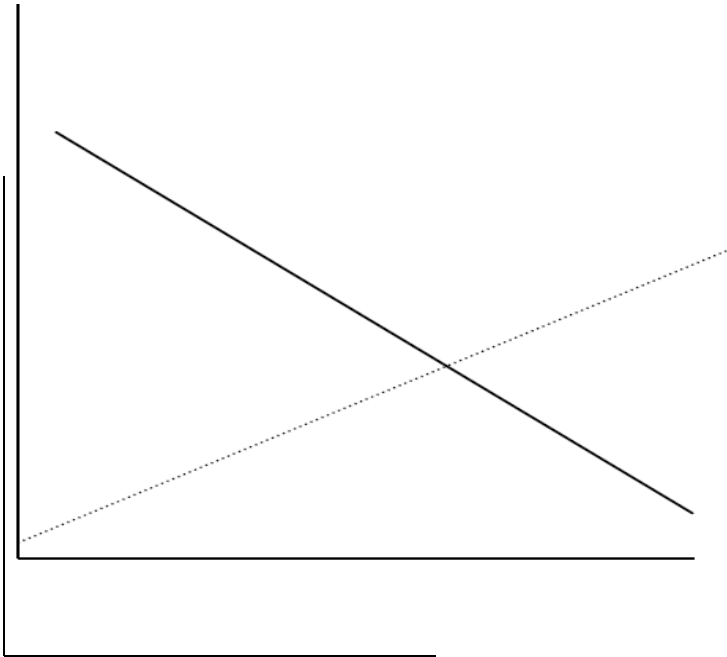
- Engage in a Global Enterprise: open up the Ricardian model to trade, deriving welfare and wage effects
- Add Capital to get HO model in Autarky

- ● ● | 'Rigid Preferences'  
1:2 ratio (cotton:autos)



# 'Rigid Preferences'

1:2 ratio (cotton:autos)



**Note that in autarchy:**

**north will produce AND consume ~34 autos and ~17 cotton;  
south will produce AND consume 12 autos and 6 cotton**

(Check it: Use  $10a + 15c = 600$  and  $a/c=2$ )



	North	South
Autarchy		
Relative Price (autos/cotton)	$2/3$	2
Consumption Ratio (autos/cotton)	$1/2$	$1/2$
Auto Prod'n	34	12
Auto Cons	34	12
Net Exports	0	0
Cotton Prod'n	17	6
Cotton Consumption	17	6
Relative Wage or living standard (north to south)	~3:1	



# *Is globalization polarizing?*

- Between countries (north-south) i.e. (rich-poor)
  - Convergence of all countries to same wealth
  - Or Permanent divergence between countries
- Within countries
  - Inequality
  - Poverty



# Effects of PPP measurement

	<i>US, 2004</i>	<i>China, 2004</i>
<i>GDP at market Exchange Rate</i>	41,400	1938
<i>GDP using \$PPP (year 1993)</i>	39,820	5890

- PPP tends to raise estimate of income for poorer countries (i.e. \$ value of haircut > \$ cost in Yen)
- Lower estimate of income for higher countries (3 Euro=\$5 Beer worth \$3 in US)

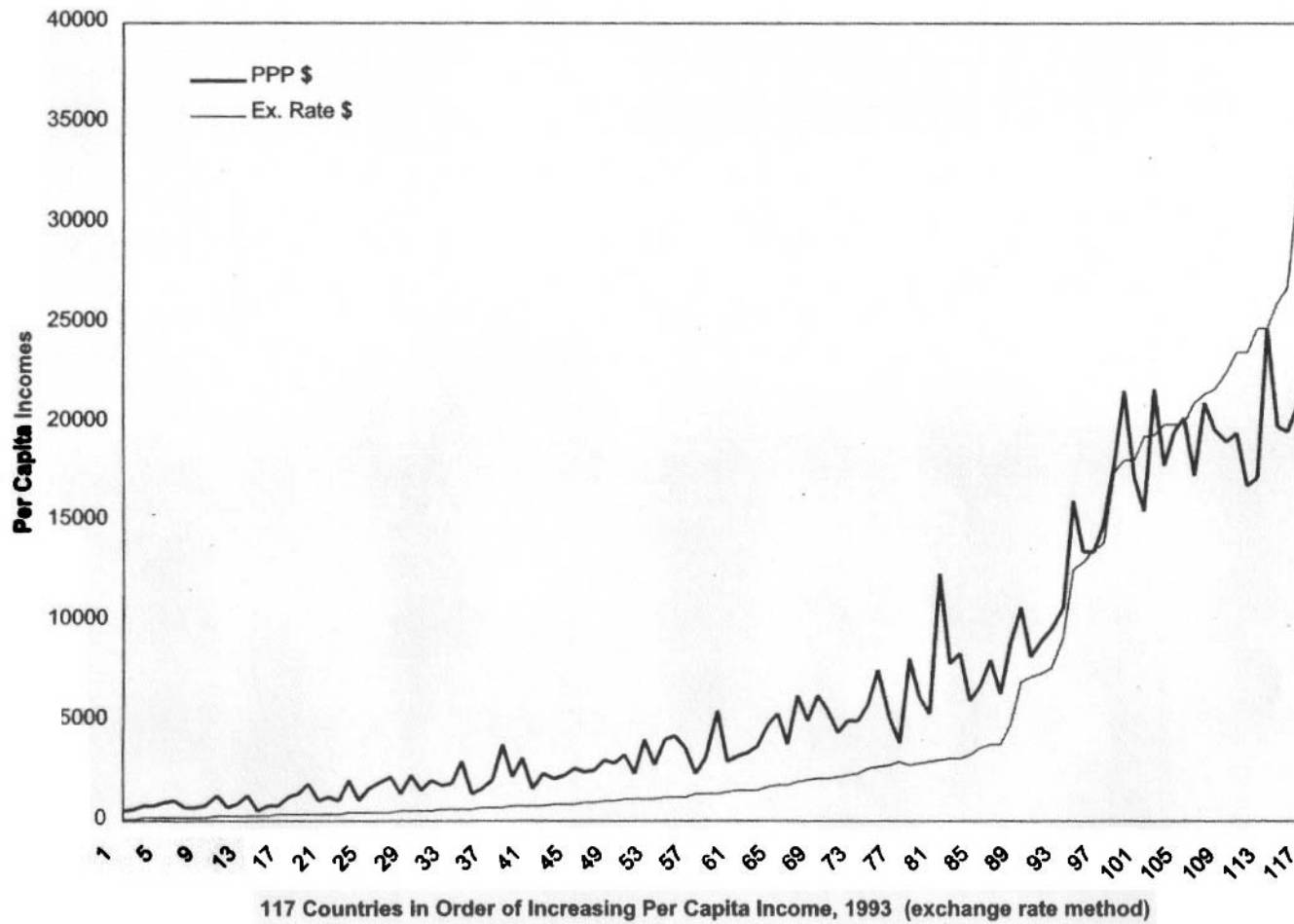


Figure 2.3. PPP versus exchange rate measures of GDP for ninety-four countries, 1993. Source: World Development Report (World Bank [1995]).